

ABSTRACT OF THE DISCLOSURE

A bioreactor for bioartificial organs, comprising a closed and substantially tubular body inside which there is a containment cavity; an animal and/or human cell culture and support structure, accommodated in  
5 the cavity and suitable to be crossed by a fluid to be processed; a port for the inflow of the fluid to be processed, which is formed in the body upstream of the structure; a port for the outflow of the processed fluid, which is formed in the body downstream of the structure; a first chamber for collecting the fluid to be processed, which is formed in the cavity upstream of the  
10 structure and is connected to the outside of the body by means of the inflow port; a second chamber for collecting the processed fluid, which is formed in the cavity downstream of the structure and is connected to the outside of the body by means of the outflow port; a first bundle of hollow capillary fibers for the inflow of the fluid to be processed, which is accommodated in  
15 the cavity and is interposed between the first collection chamber and the structure, and a second bundle of hollow capillary fibers for the outflow of the processed fluid, which is accommodated in the cavity and is interposed between the structure and the second collection chamber, the flow of the fluid being substantially parallel to the longitudinal axis of the bioreactor.